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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,410	09/27/2001	Jean-Christophe Bouteiller	1-24-4-2	3814

7590 12/08/2003
Docket Administrator (Room 3J-219)
Lucent Technologies Inc.
101 Crawfords Corner Road
Holmdel, NJ 07733-3030

EXAMINER

KIANNI, KAVEH C

ART UNIT PAPER NUMBER

2877

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/965,410	Applicant(s) BOUEILLER ET AL.	
	Examiner Kevin C Kianni	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: _____ |



DETAILED ACTION

Claim Objections

1. Claim 8 is objected to because of the following informalities: in the first line of claim 8, page 14, a colon (':') is missing after the word comprising. Appropriate correction is required.

Allowable Subject Matter

2. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 20 is allowable because the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the at least first and second sets of optical gratings and the at least one adjustable output coupler are written into or spliced onto the Raman optical fiber in combination with the rest of the limitations of the base claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Putnam et al. (Putnam) (US 6594288).

Regarding claim 1, Putnam teaches an optical device (shown in fig. Fig. 2) comprising: an optical source 43 for pumping input optical radiation centered around an input wavelength (see col. 3, lines 46,-52; also see fig. 3, item center wavelengths λ_{1-4} and col. 4, lines 18-32); and at least one adjustable output coupler (see adjustable coupling units 44 and 42 having adjustable coupling elements 61-64 and 51-54), coupled with the optical source 43, for controlling the input optical radiation λ_p at one or more output wavelengths λ_{1-4} (see at least col. 3, lines 27-50+; wherein each adjustable grating/coupler coupled to optical source for controlling the input wavelength, which is in accordance with applicant's claimed invention).

Regarding claims 2-7, Putnam further teaches wherein the at least one adjustable output coupler has a variable reflectivity (see at least col. 6, lines 56-63); wherein the reflectivity of the at least one adjustable output coupler varies in response to applying stress, heat or electrical power (see at least col. 7, lines 53-57); wherein the reflectivity of the at least one adjustable output coupler varies in response to a control signal (see at least fig. 2, item controller 48 and at least col. 7, lines 53-57); at least one set of optical gratings, each optical grating of the set converting the pumped optical radiation to wavelengths greater than or equal to the input wavelength (see fig. 2, item set 42 44 having wavelengths greater than input wavelength λ_p); wherein each

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optical grating of the set comprises a chirped or an unchirped design, and the output wavelengths are greater than the input wavelength (see fig. 2, item set 42 44 having wavelengths greater than input wavelength λ_p ; wherein the gratings are Bragg grating design, see abstract); wherein each optical grating of the set has a reflectivity of about one-hundred percent or less (see col. 3, lines 50-52; wherein reflection of a portion of light/input-light, of gratings sets 42/44, is less than hundred percent).

Regarding claim 8, Putnam teaches a cascaded Raman resonator (shown at least in fig. 2; see abstract) comprising: an optical source 43 for pumping input optical radiation centered around an input wavelength (see col. 3, lines 46,-52; also see fig. 3, item center wavelengths λ_{1-4} and col. 4, lines 18-32); at least one set of optical gratings for converting the pumped optical radiation to wavelength other than the input wavelength (see fig. 2, item set 42 44 having wavelengths greater than input wavelength λ_p); and at least one adjustable output coupler (see adjustable coupling unit 44 having adjustable coupling elements 51-54) for controlling the power of the optical radiation 41 propagating from the at least one set of optical gratings 42 at the wavelengths λ_{1-4} other than the input wavelength λ_p (see fig. 2, items 42 and 44; also at least col. 3, lines 27-50+; wherein optical wavelengths constitute the input optical power).

Regarding claims 9-13 the arguments presented in rejection of claims 2-4 and 6-7 are consecutively are analogous in rejection of claims 9-13.

Regarding claim 14, Putnam further teaches wherein the at least one set of optical gratings 42 and the at least one adjustable output coupler (items 61-64 of coupling unit 44) are written into or spliced onto an optical waveguide (see at least col. 3, lines 42-49).

Regarding claim 15, Putnam teaches multi-wavelength cascaded Raman resonator (shown at least in fig. 2; see abstract) comprising: (see col. 3, lines 46,-52; also see fig. 3, item center wavelengths λ_{1-4} and col. 4, lines 18-32); and a Raman optical fiber (see col. 3, lines 27-32) comprising: at least a first set of optical gratings for converting the pumped optical radiation to wavelengths other than the input wavelength (see fig. 2, item set 42 44 having wavelengths greater than input wavelength λ_p); and at least one adjustable output coupler having a variable reflectivity for controlling the power of the optical radiation propagating from the at least one set of optical gratings at the wavelengths other than the input wavelength (see fig. 2, items 42 and 44; also at least col. 3, lines 27-50+; wherein optical wavelengths constitute the input optical power).

Regarding claims 16-17 the arguments presented in rejection of claims 3-5 and 6-7 are consecutively are analogous in rejection of claims 16-17.

Regarding claim 18, Putnam further teaches wherein each optical grating of the at least first and second sets comprise a chirped or an unchirped design, and wherein the wavelengths other than the input wavelength are greater than the input wavelength (see fig. 2, item set 42 and 44 having wavelengths greater than input wavelength λ_p ; wherein the gratings are Bragg grating design, see abstract).

Regarding claim 19, Putnam teaches wherein each optical grating of the at least first and second sets has a reflectivity of about one-hundred percent or less (see col. 3, lines 50-52; wherein reflection of a portion of light/input-light, of gratings sets 42/44, is less than hundred percent).

Citation of Relevant Prior Art

5. Prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In accordance with MPEP 707.05 the following references are pertinent in rejection of this application since they provide substantially the same information disclosure as this patent does. These references are:

Huber 5557442 teaches at least independent claims 1 and 8

Fritz et al 5446809

Feng et al. 6453095

Ball 6020986

Adams et al. 6181852

Bailey et al. 6633695

Okayama JP409129958A

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Mizrahi 6185023

These references are cited herein to show the relevance of the apparatus/methods taught within these references as prior art.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Cyrus Kianni whose telephone number is (703) 308-1216.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (703) 308-4881.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for formal communications intended for entry)

or:

Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'Kevin Kianni', with a long horizontal flourish extending to the right.

Kevin Cyrus Kianni
Patent Examiner
Group Art Unit 2877

November 17, 2003